UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,424	06/28/2002	Muhammed Majeed	108064-00049	2480

4372 7590 12/16/2003

ARENT FOX KINTNER PLOTKIN & KAHN
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER	
JIANG, SHAOJIA A	

ART UNIT	PAPER NUMBER
1617	12

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,424	MAJEED ET AL.	
	Examiner	Art Unit	
	Shaojia A Jiang	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *148-151,175 and 177-191* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *148-151,175 and 177-191* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This Office Action is a response to Applicant's amendment and response filed on October 7, 2003 in Paper No. 11 wherein claims 1-147, 152-174, and 176 are cancelled, and claims 148-151 and 175 have been amended and claims 177-191 are newly submitted. Currently, claims 148-151, 175 and 177-191 are pending in this application.

Claims 148-151, 175 and 177-191 are examined on the merits herein.

Applicant's amendment canceling claims 144-147, 162, and 174, filed October 7, 2003 in Paper No. 11 with respect to the rejections made under 35 U.S.C. 112 first paragraph for lack of enablement in claims 144-147 and 174 drawn to the methods for the prevention or preventing of an autoimmune disease in a human or animal of record stated in the Office Action dated July 28, 2003 has been fully considered and is found persuasive to remove the rejection. Therefore, the said rejections are withdrawn.

The following is new rejection(s) necessitated by Applicant's amendment filed on October 7, 2003 in Paper No. 11.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 148-151 and 175 as amended now and new claims 177-191 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant's amendment with respect to newly submitted claims 182-183 and 188-189 has been fully considered but is deemed to insert new matter into the claims since the specification as originally filed does not provide support for the claimed particular compositions comprising the boswellic acids herein with the particular amount which is the instant single point of percentage, for each boswellic acid recited in the claims. The original specification merely discloses a **range** of percentage for each boswellic acid employed in the compositions herein (see page 16-22 of the specification). Thus, the original specification provides no disclosure and working examples for particular compositions comprising the boswellic acids herein with the particular amount, the instant single point of percentage, for each boswellic acid recited in the claims herein.

Consequently, there is nothing within the instant specification which would lead the artisan in the field to believe that Applicant was in possession of the invention as it is now claimed. See *Vas-Cath Inc. v. Mahurkar*, 19 USPQ 2d 1111, CAFC 1991, see also *In re Winkhaus*, 188 USPQ 129, CCPA 1975.

Moreover, the recitation "subject" in claims 148-151, 175 and 177-191 is not found in the claims and specification as originally filed. Thus, the amendment is deemed to insert new matter into the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 148-151 and 175 as amended now and new claims 177-191 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Nagasawa et al. (JP 0428809, of record) in view of Shao et al. (of record).

JP 0428809 discloses that specific boswellic acids such as β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, and acetyl-11-keto-β–boswellic acid are useful in pharmaceutical compositions and in the method for treatment of autoimmune diseases including systemic erythematosis and articular rheumatism in humans since β–boswellic acids exhibit a good and complemental activity-inhibiting autoimmune diseases. See JP 0428809, abstract, col.1-2, especially col.2-5 disclosing the preparation of these specific boswellic acids. Moreover, the structural formula disclosed in JP 0428809 clearly encompasses all four instant boswellic acids. JP 0428809 discloses the composition comprising β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, or acetyl-11-keto-β–boswellic acid acetyl-11-keto-β–boswellic acid in their effective amounts for treatment of autoimmune diseases. See the testing data and working examples at col.7-12.

JP 0428809 does not expressly disclose the instant particular effective amounts of β–boswellic acids employed in pharmaceutical compositions for methods for treatment of autoimmune diseases.

Shao et al. discloses that β–boswellic acid (compound 1), acetyl-β–boswellic acid (compound 2), 11-keto-β–boswellic acid (compound 3), acetyl-11-keto-β–boswellic acid (compound 4) are known to be useful in a method of treating inflammatory diseases since these boswellic acids exhibit anti-inflammatory action (see both left and right columns at page 328), and also treating leukemia in human since all four β–boswellic acids possess inhibitory activity against human leukemia H-60 cells (see abstract and the right column of page 328). Shao et al. also teaches that IC_{50} values of these boswellic acids from 1.5 to 7 μm and their dose are known to be dependent on their IC_{50} values (see the left column of page 328). Shao et al. further teaches that the order of inhibitory activity for these four β–boswellic acids is 4 > 3 > 2 > 1 or IV > III > II > I herein according to their IC_{50} values. See page 330 1st and 2nd paragraphs of the right column, and the right column of page 331.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the effective amounts of β–boswellic acids employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 5% w/w of β–boswellic acid, at least 5% w/w of acetyl-β–boswellic acid, at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid or other instant particular amounts of boswellic acids.

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of β–boswellic acids employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 5% w/w of β–boswellic acid, at least 5% w/w of acetyl-β–boswellic acid, at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid or other instant particular amounts of boswellic acids, since the testing results and working examples of the instant boswellic acids useful for treating autoimmune diseases are known according to JP 0428809. Moreover, Shao et al. discloses that β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, acetyl-11-keto-β–boswellic acid are known to be useful in treating inflammatory diseases. The IC_{50} values and activities of these boswellic acids are also known according to Shao et al.

Therefore, the determination and optimization of effective amounts of known active agents to be administered based on the known parameters, testing results and working examples provided by JP 0428809, and IC_{50} values and activities of these boswellic acids provided by Shao et al., are considered well in the competence level of an ordinary skilled artisan in pharmaceutical science, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Moreover, one of ordinary skill in the art would recognize that autoimmune diseases broadly encompass inflammatory diseases. Hence, the teachings of both JP 0428809 and Shao et al. have clearly provided the motivation for the instant invention.

Thus the claimed invention as a whole is clearly prima facie obvious over the combined teachings of the prior art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 148-151 and 175 as amended now and new claims 177-191 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Taneja et al. (EP 0755940, of rechord).

Taneja et al. discloses that boswellic acids herein such as β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, and acetyl-11-keto-β–boswellic acid (Formula I-IV therein at page 3) are useful in pharmaceutical compositions and in the method for treatment of inflammatory diseases including arthritis in humans since these boswellic acids exhibit anti-inflammatory action. See page 2 lines 49-50. Taneja et al. also discloses that the pharmaceutical composition therein comprising these β–boswellic acids in specifically effective amounts, e.g., 35-55% w/w of β–boswellic acid(which reads on at least 5% w/w), 25-45% w/w of acetyl-β–boswellic acid (which

reads on at least 5% w/w), 4-14% w/w of 11-keto-β–boswellic acid, and 3-13% w/w of acetyl-11-keto-β–boswellic acid (see page 5 lines 15-26).

Taneja et al. does not expressly disclose the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid.

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid, since the determination and optimization of effective amounts of known active agents to be administered based on the known effective amounts according to Taneja et al, are considered well in the competence level of an ordinary skilled artisan in pharmaceutical science, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Moreover, one of ordinary skill in the art would recognize that autoimmune diseases broadly encompass inflammatory diseases. Hence, the teachings of Taneja et al. have clearly provided the motivation for the instant invention.

Thus the claimed invention as a whole is clearly prima facie obvious over the combined teachings of the prior art.

Applicant's remarks filed on October 7, 2003 in Paper No. 11 with respect to the rejection of Claims 144-151, 162 and 174-175 made under 35 U.S.C. 103(a) as being unpatentable over by Nagasawa et al. (JP 0428809) in view of Shao et al. (XP-000912127), and the rejection of claims 144-151, 162 and 174-175 made under 35 U.S.C. 103(a) as being unpatentable over by Taneja et al. (EP 0755940) of record in the previous Office Action dated July 28, 2003 have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art. These remarks are believed to be adequately addressed by the obvious rejection presented above.

Additionally, the specification provides **no** clear and convincing evidence of nonobviousness or unexpected results, i.e., testing results or data demonstrating that the instant boswellic acids in their effective amounts to be administered to a host, i.e., an animal or a human, are useful in treating any autoimmune disease in an animal or a

human. Further, it is noted that the specification provides no side-by-side comparison with the closest prior art in support of nonobviousness for the instant claimed invention over the prior art.

For the above stated reasons, said claims are properly rejected under 35 U.S.C. 103(a).

In view of the rejections to the pending claims set forth above, no claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jiang, whose telephone number is (703) 305-1008. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, Ph.D., can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-1235.

S. Anna Jiang, Ph.D.
Patent Examiner, AU 1617
December 3, 2003

SREENIVASAN PADMANABHAN
SUPERVISORY PATENT EXAMINER

12/15/03